* NOTICES *

DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] This invention relates to an optical recording medium at the optical head equipment for recording and reproducing information.
[0002]
[Description of the Prior Art] Drawing 3 shows the conceptual diagram of the conventional magneto-optics read-out system. In drawing 3 , the laser diode LD as a light emitting device carries out outgoing radiation of the laser beam as a light beam, and the laser beam is led to Lens L and Polarizer P one by one. The laser beam which passed the polarizer P is a half mirror M1 further. And it is led to the object (condensing) lens OL one by one, and incidence is carried out to a record medium. The light reflected with the record medium is the half mirror M1 after being again led to the objective lens. It is reflected. the half mirror M1 from -- the reflected light -- half mirror M2 And analyzer A1 It is led one by one. The analyzer A1 The light which passed is the diode PD 1 as a light emitting device light. Light is received. The received light serves as an electrical signal as a light-receiving signal, and is inputted into the differential amplifier K. On the other hand, it is a half mirror M2. A part of drawn light is an analyzer A2. It lets it pass and light is received for the optical diode PD 2. The received light serves as an electrical signal, and is inputted into the differential amplifier K.
[0003] The incident light made the linearly polarized light with Polarizer P by the above configuration is Io in strength. Incidence is carried out to the film surface of a record medium, and it is reflected by the film surface with a reflection factor R. And as for that reflected light, magnetization rotates that plane of polarization to an opposite direction mutually by facing up or facing down at this time (this angle of rotation is set to **thetak). The above-mentioned reflected light is a half mirror M1. It is reflected rightward and is an analyzer A1. Incidence is carried out. And rotatory polarization angle thetak It is changed into luminous-intensity change as follows. An analyzer presupposes that only theta is rotating from the quenching location (include angle from which an analyzer output serves as min) in case magnetization is 0. And when an analyzer output is set to I, it is I=Io Rsin2 (theta-thetak). (1)
It becomes. here -- phi -- magnetization -- facing up -- the time of information "thetak and magnetization are information "0 at facing down at the time of 1"" -thetak ** -- it carries out. And difference deltaI of an output signal to information "1" and information "0" deltaI=Io R [sin2 (theta+thetak)-sin2 (theta-thetak)]
= Io Rsin2thetasin2thetak (2)
It becomes. As mentioned above, the amount of signals as a light-receiving signal in the case of playback of the magneto-optic disk as a record medium (C value) is Io xsinthetak. It is proportional.
[0004] By the way, the reflected light is a half mirror M2. It is divided into two beams. And the differential amplifier of the electric generating power is carried out for each beam through an analyzer and optical diode. This is a noise reduction measure. Moreover, in order that the laser which is the light source may reduce the noise by return light, RF superposition is performed and, usually a pulse drive is carried out.
[0005] S/N is car (Kerr) angle-of-rotation thetak. It is influenced. Drawing 4 is car angle-of-rotation thetak. Temperature dependence is shown. drawing 4 -- setting -- an axis of abscissa -- the temperature of a disk ingredient, and an axis of ordinate -- car angle-of-rotation thetak it is . Moreover, a characteristic curve x is the Curie temperature Tc. In the case of a high ingredient, a characteristic curve y is the Curie temperature Tc. It is the case of a low ingredient.
[0006] As shown in drawing 4 , it is car angle-of-rotation thetak. It is the function of temperature, and it decreases with temperature so that it may be set to 0 at the Curie temperature Tc. Curie temperature Tc If a low

ingredient is used, it is car angle-of-rotation thetak at the temperature at the time of playback. Only a decrement is car angle-of-rotation thetak. It falls. Therefore, S/N is not improved. That is, it is Io in the strength of C value and incident light. It will not be proportional for a disk material temperature rise.
[0007] Drawing 5 is drawing showing the relation between the Read pulse as a luminescence pulse, and the temperature of the disk ingredient as a record medium. It sets to drawing 5 and a Read pulse is Power Po. It is temperature To about the temperature to which a disk ingredient goes up when playback is performed. It carries out. And timing t21 and the timing of the standup of disk material temperature of the timing of the standup of the Read pulse as timing to start [of a light emitting device] are timing t22. Moreover, the timing from which, as for the timing of falling of a Read pulse, timing t23 and disk material temperature return to ordinary temperature is timing t24. In this case, it is Io in the strength of incident light at the purpose which usually obtains high C value. If it enlarges, it is the disk material temperature To. It goes up and is car angle-of-rotation thetak. It becomes small. Therefore, high C value is not obtained as a result.
[0008]
[Problem(s) to be Solved by the Invention] In conventional optical head equipment, it is the purpose which obtains high C value, and is Io in the strength of incident light. If it enlarges, disk material temperature rises and it is car angle-of-rotation thetak. It becomes small. Therefore, high C value is not obtained as a result.
[0009] It is made in view of such a situation, and this invention is Io in the strength of incident light. It is large and aims at high C value being obtained by reproducing in the field where disk material temperature is low.
[0010]
[Means for Solving the Problem] Optical head equipment according to claim 1 is characterized by the timing (t3-t1) of the Read pulse as a luminescence pulse of a light emitting device differing from the reading timing (t2-t1) of the light-receiving signal of a photo detector.
[0011] Optical head equipment according to claim 2 is the timing t1 of the standup of the Read pulse as timing to start [of the above-mentioned light emitting device]. Timing t1 of the standup of the reading timing as timing to start the light-receiving signal of the above-mentioned photo detector It is characterized by the simultaneous thing.
[0012] Optical head equipment according to claim 3 is the timing t2 of falling of the reading timing as timing which reading of the light-receiving signal of the above-mentioned photo detector ends. Timing t3 of falling of the Read pulse as timing which luminescence of the above-mentioned light emitting device ends It is characterized by the early thing.
[0013] It is characterized by optical head equipment according to claim 4 having a periodic Read pulse as a luminescence pulse of the above-mentioned light emitting device in the shape of a triangular wave.
[0014]
[Function] In optical head equipment according to claim 1, it reads with the timing (t3-t1) of a Read pulse, and timing (t2-t1) differs. High C value is obtained by the above thing.
[0015] It sets to optical head equipment according to claim 2, and is the timing t1 of the standup of a Read pulse. Timing t1 of the standup of the reading timing as timing to start It is simultaneous. High C value is obtained by the above thing.
[0016] It sets to optical head equipment according to claim 3, and is the timing t2 of falling of reading timing. Timing t3 of falling of a Read pulse It is early. High C value is obtained by the above thing.
[0017] In optical head equipment according to claim 4, a Read pulse is periodic in the shape of a triangular wave. High C value is obtained by the above thing.
[0018]
[Example]
<Example 1> Drawing 1 shows the relation between the Read pulse as a luminescence pulse, the temperature of the disk ingredient as a record medium, and the read-out timing of a light-receiving signal in an example 1. In drawing 1 , an axis of abscissa is time amount t. And a Read pulse is Power Po. It is temperature To about the temperature to which a disk ingredient goes up when playback is performed. It carries out. moreover, the temperature to which a disk ingredient goes up when a Read pulse increases R times (R-Po) -- temperature TK it is . and the timing of the standup of the Read pulse as timing to start [of a light emitting device] -- timing t1 it is . Moreover, the timing of the standup of the read-out timing as timing to start the light-receiving signal of a photo detector is timing t1. It is simultaneous. and the timing of the standup of disk material temperature -- timing t1 it is . moreover, the timing of falling of the read-out timing as timing which reading of the light-

receiving signal of a photo detector ends -- timing t2 it is . moreover, the timing of falling of the Read pulse as timing which luminescence of a light emitting device ends -- timing t3 it is . moreover, the timing from which disk material temperature returns to ordinary temperature -- timing t4 it is .

[0019] Next, the actuation is explained. this invention -- read-out timing (period of the timing t1 of the standup of read-out, and the timing t2 of falling of read-out) -- timing t1 of the standup of a Read pulse from -- a disk ingredient -- temperature To It will carry out, only by the time it becomes. Read power is large and only the period when an angle of rotation is large (a disk ingredient is [to temperature To] low) is reproduced by that. and a Read pulse -- power Po it is -- compared with the time, the C value as a light-receiving signal is obtained greatly. in addition, timing t2 of falling of read-out timing from -- timing t3 of falling of a Read pulse up to -- in between, a value is held by sample hold.

[0020] As mentioned above, the pulse drive of the output of laser is carried out greatly, and it is Io in the strength of incident light. It is enlarged. And the field (car angle-of-rotation thetak is a large field, i.e., the near part of the standup of a pulse) where disk material temperature is low is reproduced. High C value can be obtained by that.

[0021] <Example 2> Drawing 2 shows the case where a Read pulse becomes triangular wave-like, in an example 2. In drawing 2 , timing of the standup of a Read pulse is taken as timing t11. And the timing of the standup of read-out timing is almost equal to timing t11. Moreover, the timing of the standup of disk material temperature is timing t11. And a Read pulse is Power Po. It is temperature To about the temperature to which a disk ingredient goes up when playback is performed. It carries out. Moreover, a Read pulse is Power PL. The temperature to which a disk ingredient goes up when it becomes is temperature TL. It carries out. Moreover, the timing from which disk material temperature returns to ordinary temperature is timing t14. And as shown in this drawing, a Read pulse is periodic in the shape of a triangular wave, and the power is becoming small gradually in the period to timing t13. And for read-out timing (period of the timing t11 of the standup of read-out, and the timing t12 of falling of read-out), the timing t11 of the standup of a Read pulse to a disk ingredient is temperature To. It carries out only until it becomes. As mentioned above, when a Read pulse is a triangular wave-like, by the time disk material temperature rises, the power of a Read pulse will become large temporarily, and it improves to C high-priced.

[0022]

[Effect of the Invention] As mentioned above, according to optical head equipment according to claim 1, since it was made for the timing of the luminescence pulse of a light emitting device to differ from the reading timing of the light-receiving signal of a photo detector, high C value can be obtained.

[0023] Since the timing from which luminescence of the above-mentioned light emitting device begins, and the timing from which reading of the light-receiving signal of the above-mentioned photo detector begins carried out as [simultaneously] according to optical head equipment according to claim 2, high C value can be obtained.

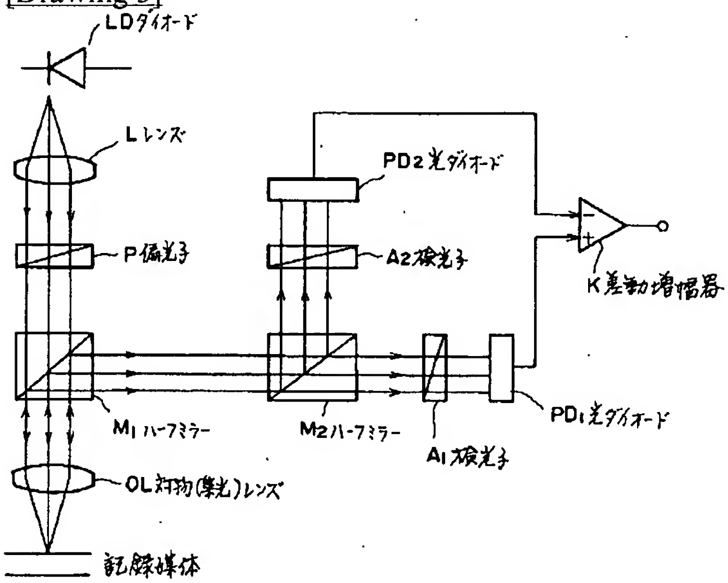
[0024] Since it was made earlier [the timing which reading of the light-receiving signal of the above-mentioned photo detector ends] than the timing which luminescence of the above-mentioned light emitting device ends according to optical head equipment according to claim 3, high C value can be obtained.

[0025] Since the luminescence pulse of the above-mentioned light emitting device carried out as [periodically] the shape of a triangular wave according to optical head equipment according to claim 4, high C value can be obtained.

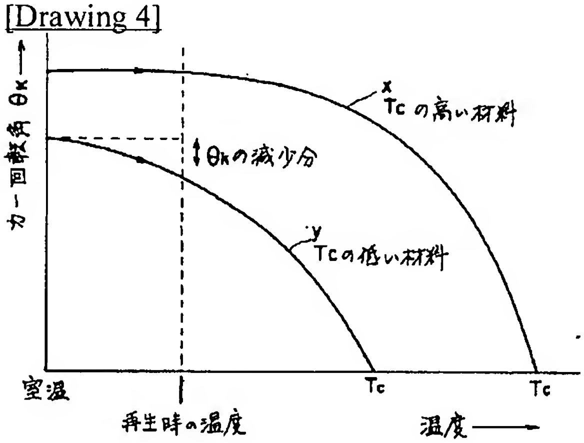
[Translation done.]

DRAWINGS

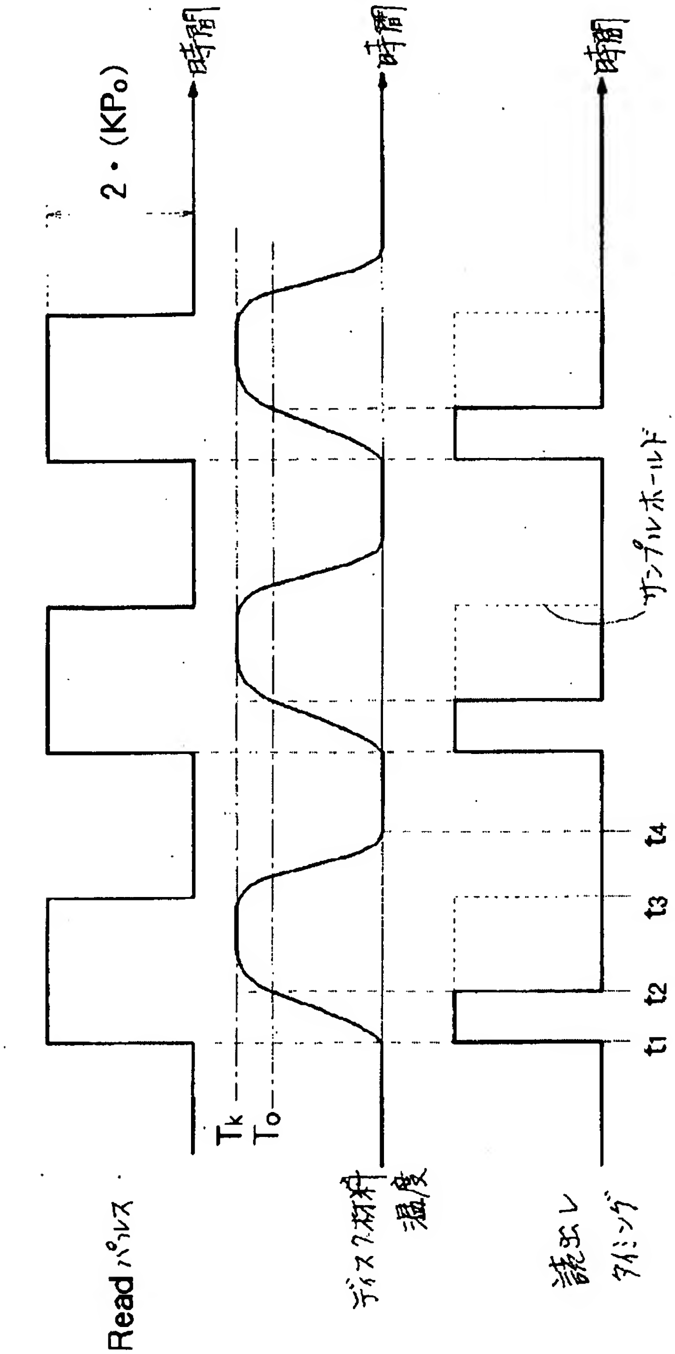
[Drawing 3]



[Drawing 4]

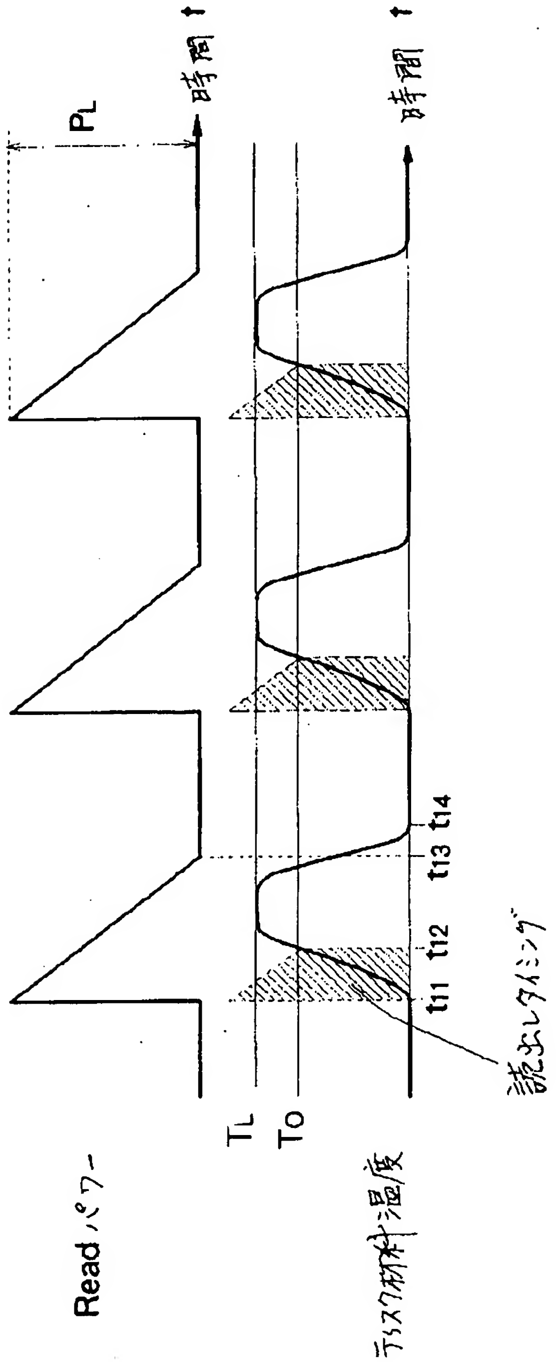


[Drawing 1]

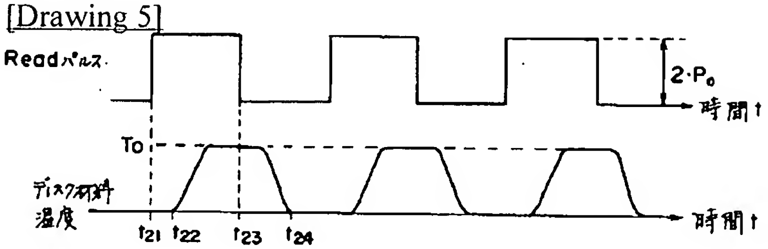


Read パルス
2・(KPo)
時間
Tk
To
ディスク材料
温度
時間
読出し
タイミング
サンプルホールド
時間
t1
t2
t3
t4

[Drawing 2]



[Drawing 5]



[Translation done.]